

Claims

- 1 1. A method for processing the computed tomographic (CT) images of a lung, the method
2 comprising the steps of:
 - 3 a) processing a plurality of CT lung images, each composed of lung image data, taken
4 from a patient in one CT study;
 - 5 b) relating said plurality of CT lung images taken from a patient in one CT study with
6 a plurality of CT lung images taken from the same patient in another study to
7 detect changes in a nodule within the CT images of the lung.
- 1 2. The method of claim 1 wherein the step of relating said plurality of CT lung images taken
2 from a patient one CT study with a plurality of CT lung images taken from the same
3 patient in another study comprises the steps of:
 - 4 a) automatically registering a plurality of CT images from a first study with CT images
5 from a second study;
 - 6 b) automatically cross matching nodules between CT lung image data from the first and
7 second study;
 - 8 c) calculating the volume change of each previously identified nodal feature by
9 automatically comparing the computed volume, V , of a nodule from the first study
10 with the computed volume, V , of the same nodule from the second study.
- 1 3. The method of claim 2 wherein the step of automatically registering the plurality of CT images
2 study comprises the steps of:
 - 3 a) identifying the vertical position of a first CT image ;
 - 4 b) matching the vertical position of the first CT image with an image from the second CT
5 study;
 - 6 c) aligning the centroid of the sternum, the vertebra, and the thorax from the first study
7 with that of the second study ; and
 - 8 d) automatically aligning the trachea, spine, sternum and centroids of the individual and
9 combined lungs by an affine transformation.